## E. TYPHOON ELSIE (121200Z-150600Z JULY 1961)

ELSIE BECAME A CLOSED VORTEX ABOUT 360 MI NE OF TRUK ON THE 031200Z SURFACE CHART WITH A CENTER PRESSURE NOT LOWER THAN 1009 MB, A RATHER HIGH MINIMUM PRESSURE VALUE IN THE TROPICS. THIS WEAK CYCLONE MEANDERED 2300 MI AT AN AVERAGE SPEED OF 10 KTS IN THE EASTERLIES BEFORE A WARNING WAS ISSUED.

THE FIRST WARNING WAS ISSUED AFTER RECONNAISSANCE HAD DETERMINED THE POSITION OF THE CIRCULATION, AND THE FACT THAT IT HAD WALL CLOUDS. THE SURFACE WIND SPEEDS OF THE TYPHOON INTENSIFIED TO A MAXIMUM OF 80 KTS AND IT CONTINUED TO MOVE TOWARD THE \$ TIP OF TAIWAN, STRIKING LAND THERE AT 132000Z WITH SUSTAINED SURFACE WINDS OF 70 KTS. THE TRACK AND CONTINUED WESTERLY MOVEMENT OF ELSIE CONFIRMED THE RULE OF THUMB INDICATED BY LT. COLONEL HSU YING-CHIN, IN "THE PROBLEM OF TYPHOON FORECASTING OVER TAIWAN AND ITS VICINITY," THAT IF A STATIONARY LEEWARD INDUCED LOW FORMS NEAR TAICHUNG (46751) AND INTENSIFIES, THE TYPHOON WILL NOT RECURVE. THE INDUCED LOW BEGAN FORMING AS EARLY AS 130000Z AND WAS WELL ESTABLISHED BY TIME OF LAND STRIKE ON TAIWAN. THE TYPHOON DID NOT RECURVE.

ELSIE GRADUALLY WEAKENED AFTER PASSING TAIWAN, MOVED ACROSS THE SOUTHERN APPROACH TO TAIWAN STRAIT AND ENTERED THE ASIATIC MAINLAND 125 MI ENE OF HONG KONG. THE 35 KT SURFACE WINDS THAT EXISTED AT TIME OF LAND STRIKE RAPIDLY WEAKENED TO 15 KTS. THE LAST WARNING WAS ISSUED AT 150600Z WHEN THE CYCLONE WAS 90 MI INLAND, AND 105 MI NE OF HONG KONG.

THE USE OF EXTRAPOLATION, CLIMATOLOGY AND THE 500 MB CHART PRO-VIDED THE BEST GUIDE FOR FORECASTING THE VELOCITY OF ELSIE. THE 500 MB SPACE MEAN CHART WAS OF LITTLE USE UNTIL 14 JULY, AND THE 200 MB CHART SUGGESTED A MORE SOUTHERLY MOVEMENT THAN THAT WHICH OCCURRED. A TROPICAL CYCLONE OF 23-24 JULY 1944 WAS USED AS A CLIMATOLOGY MODEL.

LIMITED DATA INDICATED THAT ELSIE EXTENDED UPWARD THROUGH THE 40,000 FT LEVEL A FEW HOURS BEFORE PASSING ACROSS THE S TIP OF TAIWAN. THE TYPHOON MOVED 495 MI DURING THE 2 DAYS AND 18 HOURS THAT WARNINGS WERE ISSUED AT AN AVERAGE SPEED OF 7.5 KTS OR 180 MI PER DAY. ELSIE MOVED AT A MINIMUM SPEED OF 4 KTS BETWEEN 121800Z AND 131200Z; AT A MAXIMUM SPEED OF 15 KTS BETWEEN 141800Z AND 150600Z, AND HAD A MAXIMUM SURFACE WIND SPEED OF 80 KTS BETWEEN 121800Z AND 131200Z.

ELSIE CAUSED DAMAGE ON TAIWAN AND THE ASIATIC MAINLAND. STRONG WINDS AND HEAVY RAINS CAUSED SOME CROP DAMAGE, LOSS OF SEVERAL POWER LINES, AND LEFT 345 PERSONS HOMELESS. THE PINGTUNG AREA WAS HARDEST HIT AND ONE MAN WAS REPORTED DROWNED THERE. ONE TAIWANESE MAN WAS ALSO REPORTED DROWNED WHEN HE ATTEMPTED TO CROSS A SWOLLEN STREAM AND FELL INTO THE WATER NEAR HIS HOME IN JUALIEN. INFORMATION IS NOT AVAILABLE CONCERNING DAMAGE ON THE ASIATIC MAINLAND.

## LAND RADAR AND AIRCRAFT FIXES - TYPHOON ELSIE

FIX No.	TIME	LAT.	LONG.	UNIT METHOD & ACCY	MAX SFC WND	MAX 700MB WND	MIN 700MB HGT	MIN SLP MBS	700MB T/TD (°C)	EYE CHARACTER ISTICS
1	·120810Z	20.7N	123.2E	VW1-R-10	***					DIA 70MI
2	122245Z	21.3N	122.7E	56-P-04	100	<b>7</b> 5	9680	986	13/13	NOT DEFINED ON RADAR
3	130330Z	21.5N	122.1E	56-P-03	75	40	9420	974	16/11	CIRC 35MI DIA POORLY DEFINED
4	130930Z	21.6N	121.6E	56-P-03	100	60	9430	975	16/16	ELLIP DIA 18M1 SSW-NNE & 10M1 WNW-ESE WALL CLDS ALL QUADS
5	131530Z	21.7N	121.1É	VW1-R-02		***	<b></b>			DIA 45MI SPIRAL BANDS 160MI DIA ALL QUADS EXCEPT NE
6	132200Z	22.1N	120.7E	56-P-01	90	*60	*18500		*01/01	DIA 30MI
7	140400Z	22.ON	119.2E	56-P-05		*60	9840	986	12/11	DIA 40MI
8	140937Z	22.ON	119.5E	56-P-15	25	35	9860	990	11/11	NOT WELL DEFINED NO WALL CLDS
9	141610Z	22.0N	119.5E	VW1-R-U			.es es es es			NO EYE VISIBLE NORTH SEMICIRC APPEARS CLEAR.

\*500MB DATA.

## TYPHOON ELSIE 12-15 JULY 1961 POSITION AND FORECAST VERIFICATION DATA

	STORM P	OSITION	24 HR. ERROR	48 HR. ERROR	
DTG	LAT.	LONG.	DEG. DISTANCE	DEG. DISTANCE	
121200Z	20.8N	123.1E		40 AM AM AM AM AM AM	
121800Z	21.2N	122.7E	10 to on ap 11 to m	*****	
130000Z	21.4N	122.3E	***		
130600Z	21.6N	121.8E	***	***	
131200Z	21.7N	121.4E	290-164		
131800Z	21.8N	120.9E	286-196	dia dia (40 40 40 40 40 40	
140000Z	22.2N	120.5E	042-23		
140600Z	22.2N	119.8E	339-44	-	
141200Z	21.9N	119.1E	348-34	288-265	
141800Z	22.4N	118.0E	119-31	283-260	
150000Z	22.9N	116.4E	121-62	076-89	
150600Z	23.9N	115.1E	124-118	105-79	
AVERAGE 24	HOUR ERROR	84 MI			
	HOUR ERROR				

